

## CLAIMS

What is claimed is:

- 1     1.     A method to produce visual effect on a display, the method comprising:  
2           receiving a first time length; and  
3           adjusting, according to an elapsed time, color correction parameters a  
4           plurality of times during a time period of the first length.
- 1     2.     A method as in claim 1, wherein the color correction parameters comprise at  
2           least one look up table for gamma correction; and wherein said elapsed time  
3           is measured by a real time clock which measures time during production of  
4           the visual effect.
- 1     3.     A method as in claim 2, wherein the at least one look up table is adjusted to  
2           blend input color signals with a color; and wherein the input color signals is  
3           blended with the color according to the elapsed time.
- 1     4.     A method as in claim 3, wherein a weight on the color to blend the input  
2           color signals with the color changes faster near a middle of the time period  
3           than at one of:  
4           a) a beginning of the time period; and  
5           b) an end of the time period.

- 1 5. A method as in claim 4, wherein the weight is determined from a function of  
2 the elapsed time.
- 1 6. A method as in claim 1, further comprising:  
2 performing color correction according to the color correction parameters.
- 1 7. A method as in claim 1, wherein said adjusting the color correction  
2 parameters comprises:  
3 instructing a graphics processing unit (GPU) to adjust the color correction  
4 parameters according to the elapsed time.
- 1 8. A method as in claim 1, wherein a frequency for said adjusting the color  
2 correction parameters is determined according to a refreshing frequency for  
3 displaying, on the display, input color signals corrected by the color  
4 correction parameters.
- 1 9. A method as in claim 8, wherein the frequency for said adjusting the color  
2 correction parameters is substantially equal to the refreshing frequency.
- 1 10. A method as in claim 1, wherein said adjusting the color correction  
2 parameters comprises:  
3 determining a first value of the elapsed time;

4           determining first values of the color correction parameters according to the  
5                   first value of the elapsed time;  
6           determining a second value of the elapsed time; and  
7           determining second values of the color correction parameters according to  
8                   the second value of the elapsed time.

1    11.    A method as in claim 10, wherein said adjusting the color correction  
2           parameters is performed by an operating system of a data processing system  
3           according to a task scheduler in response to a request from an application  
4           program running on the data processing system.

1    12.    A method as in claim 11, wherein the application program is allowed to  
2           execute operations during the time period.

1    13.    A method as in claim 11, wherein the application program is not allowed to  
2           execute operations until the request is fulfilled.

1    14.    A method as in claim 1, further comprising:  
2           restoring, after the time period, the color correction parameters to values that  
3                   the color correction parameters have before the time period.

1    15.    A method as in claim 14, wherein said restoring is performed on expiration  
2            of a reservation time period, within which said adjusting the color correction  
3            parameters is performed.

1    16.    A method as in claim 1, further comprising:  
2            receiving a second time length from a second application program; and  
3            adjusting, according to an elapsed time, the color correction parameters a  
4                    plurality of times during a time period of the second length in  
5                    response to a request from the second application program;  
6            wherein the first time length is received from a first application program; and  
7            wherein said adjusting the color correction parameters during the time period  
8                    of the first length is in response to a request from the first application  
9                    program.

1    17.    A method as in claim 1, further comprising:  
2            receiving a request for a reservation from a first application program; and  
3            granting a first reservation to the first application program in response to a  
4                    determination that there is no pending reservation;  
5            wherein the first time length is received from the first application program;  
6                    and

7            wherein said adjusting the color correction parameters is in response to a  
8            request from the first application program that is in possess of the  
9            first reservation.

1    18.    A method as in claim 17, wherein said adjusting the color correction  
2           parameters is performed after a determination that the request from the first  
3           application program is received within a reservation time period for the first  
4           reservation.

1    19.    A method as in claim 18, further comprising:  
2           restoring, upon expiration of the reservation, the color correction parameters  
3           to values that the color correction parameters have before the  
4           reservation.

1    20.    A machine readable medium containing executable computer program  
2           instructions which when executed by a data processing system cause said  
3           system to perform a method to produce visual effect on a display of the data  
4           processing system, the method comprising:  
5           receiving a first time length; and  
6           adjusting, according to an elapsed time, color correction parameters a  
7           plurality of times during a time period of the first length.

1    21.    A medium as in claim 20, wherein the color correction parameters comprise  
2            at least one look up table for gamma correction; and wherein said elapsed  
3            time is measured by a real time clock which measures time during  
4            production of the visual effect.

1    22.    A medium as in claim 21, wherein the at least one look up table is adjusted to  
2            blend input color signals with a color; and wherein the input color signals is  
3            blended with the color according to the elapsed time.

1    23.    A medium as in claim 22, wherein a weight on the color to blend the input  
2            color signals with the color changes faster near a middle of the time period  
3            than at one of:  
4            a) a beginning of the time period; and  
5            b) an end of the time period.

1    24.    A medium as in claim 23, wherein the weight is determined from a function  
2            of the elapsed time.

1    25.    A medium as in claim 20, wherein the method further comprises:  
2            performing color correction according to the color correction parameters.

- 1    26.    A medium as in claim 20, wherein said adjusting the color correction  
2            parameters comprises:  
3            instructing a graphics processing unit (GPU) to adjust the color correction  
4            parameters according to the elapsed time.
- 1    27.    A medium as in claim 20, wherein a frequency for said adjusting the color  
2            correction parameters is determined according to a refreshing frequency for  
3            displaying, on the display, input color signals corrected by the color  
4            correction parameters.
- 1    28.    A medium as in claim 27, wherein the frequency for said adjusting the color  
2            correction parameters is substantially equal to the refreshing frequency.
- 1    29.    A medium as in claim 20, wherein said adjusting the color correction  
2            parameters comprises:  
3            determining a first value of the elapsed time;  
4            determining first values of the color correction parameters according to the  
5            first value of the elapsed time;  
6            determining a second value of the elapsed time; and  
7            determining second values of the color correction parameters according to  
8            the second value of the elapsed time.

1    30.    A medium as in claim 29, wherein said adjusting the color correction  
2           parameters is performed by an operating system of a data processing system  
3           according to a task scheduler in response to a request from an application  
4           program running on the data processing system.

1    31.    A medium as in claim 30, wherein the application program is allowed to  
2           execute operations during the time period.

1    32.    A medium as in claim 30, wherein the application program is not allowed to  
2           execute operations until the request is fulfilled.

1    33.    A medium as in claim 20, wherein the method further comprises:  
2           restoring, after the time period, the color correction parameters to values that  
3           the color correction parameters have before the time period.

1    34.    A medium as in claim 33, wherein said restoring is performed on expiration  
2           of a reservation time period, within which said adjusting the color correction  
3           parameters is performed.

1    35.    A medium as in claim 20, wherein the method further comprises:  
2           receiving a second time length from a second application program; and



3        adjusting, according to an elapsed time, the color correction parameters a  
4                plurality of times during a time period of the second length in  
5                response to a request from the second application program;  
6        wherein the first time length is received from a first application program; and  
7        wherein said adjusting the color correction parameters during the time period  
8                of the first length is in response to a request from the first application  
9                program.

1    36.    A medium as in claim 20, wherein the method further comprises:  
2           receiving a request for a reservation from a first application program; and  
3           granting a first reservation to the first application program in response to a  
4                determination that there is no pending reservation;  
5           wherein the first time length is received from the first application program;  
6                and  
7           wherein said adjusting the color correction parameters is in response to a  
8                request from the first application program that is in possess of the  
9                first reservation.

1    37.    A medium as in claim 36, wherein said adjusting the color correction  
2           parameters is performed after a determination that the request from the first  
3           application program is received within a reservation time period for the first  
4           reservation.

1     38.     A medium as in claim 37, wherein the method further comprises:  
2             restoring, upon expiration of the reservation, the color correction parameters  
3             to values that the color correction parameters have before the  
4             reservation.

1     39.     A data processing system to produce visual effect on a display device, the  
2             data processing system comprising:  
3             means for receiving a first time length; and  
4             means for adjusting, according to an elapsed time, color correction  
5             parameters a plurality of times during a time period of the first length.

1     40.     A data processing system as in claim 39, wherein the color correction  
2             parameters comprise at least one look up table for gamma correction; and  
3             wherein said elapsed time is measured by a real time clock which measures  
4             time during production of the visual effect.

1     41.     A data processing system as in claim 40, wherein the at least one look up  
2             table is adjusted to blend input color signals with a color; and wherein the  
3             input color signals is blended with the color according to the elapsed time.

1    42.    A data processing system as in claim 41, wherein a weight on the color to  
2           blend the input color signals with the color changes faster near a middle of  
3           the time period than at one of:  
4           a) a beginning of the time period; and  
5           b) an end of the time period.

1    43.    A data processing system as in claim 42, wherein the weight is determined  
2           from a function of the elapsed time.

1    44.    A data processing system as in claim 39, further comprising:  
2           means for performing color correction according to the color correction  
3           parameters.

1    45.    A data processing system as in claim 39, wherein said means for adjusting  
2           the color correction parameters comprises:  
3           means for instructing a graphics processing unit (GPU) to adjust the color  
4           correction parameters according to the elapsed time.

1    46.    A data processing system as in claim 39, wherein a frequency for adjusting  
2           the color correction parameters is determined according to a refreshing  
3           frequency for displaying, on the display device, input color signals corrected  
4           by the color correction parameters.

1    47.    A data processing system as in claim 46, wherein the frequency for adjusting  
2           the color correction parameters is substantially equal to the refreshing  
3           frequency.

1    48.    A data processing system as in claim 39, wherein said means for adjusting  
2           the color correction parameters comprises:  
3           means for determining a first value of the elapsed time;  
4           means for determining first values of the color correction parameters  
5                  according to the first value of the elapsed time;  
6           means for determining a second value of the elapsed time; and  
7           means for determining second values of the color correction parameters  
8                  according to the second value of the elapsed time.

1    49.    A data processing system as in claim 48, wherein the color correction  
2           parameters are adjusted by an operating system of a data processing system  
3           according to a task scheduler in response to a request from an application  
4           program running on the data processing system.

1    50.    A data processing system as in claim 49, wherein the application program is  
2           allowed to execute operations during the time period.

1     51.     A data processing system as in claim 49, wherein the application program is  
2             not allowed to execute operations until the request is fulfilled.

1     52.     A data processing system as in claim 39, further comprising:  
2             means for restoring, after the time period, the color correction parameters to  
3                     values that the color correction parameters have before the time  
4                     period.

1     53.     A data processing system as in claim 52, wherein the color correction  
2             parameters are restored on expiration of a reservation time period, within  
3             which said adjusting the color correction parameters is performed.

1     54.     A data processing system as in claim 39, further comprising:  
2             means for receiving a second time length from a second application program;  
3                     and  
4             means for adjusting, according to an elapsed time, the color correction  
5                     parameters a plurality of times during a time period of the second  
6                     length in response to a request from the second application program;  
7             wherein the first time length is received from a first application program; and  
8             wherein the color correction parameters are adjusted during the time period  
9                     of the first length in response to a request from the first application  
10             program.

1    55.    A data processing system as in claim 39, further comprising:  
2           means for receiving a request for a reservation from a first application  
3           program; and  
4           means for granting a first reservation to the first application program in  
5           response to a determination that there is no pending reservation;  
6           wherein the first time length is received from the first application program;  
7           and  
8           wherein the color correction parameters are adjusted in response to a request  
9           from the first application program that is in possess of the first  
10          reservation.

1    56.    A data processing system as in claim 55, wherein the color correction  
2           parameters are adjusted after a determination that the request from the first  
3           application program is received within a reservation time period for the first  
4           reservation.

1    57.    A data processing system as in claim 56, further comprising:  
2           means for restoring, upon expiration of the reservation, the color correction  
3           parameters to values that the color correction parameters have before  
4           the reservation.